



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/574,258

03/28/2006

Angelo Beati

12928/10026

9739

26646 7590 11/13/2007
KENYON & KENYON LLP
ONE BROADWAY
NEW YORK, NY 10004

EXAMINER

PALABRICA, RICARDO J

ART UNIT

PAPER NUMBER

3663

MAIL DATE

DELIVERY MODE

11/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/574,258

Applicant(s)

BEATI ET AL.

Examiner

Rick Palabrica

Art Unit

3663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13 and 15-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13 and 15-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's 9/28/07 Amendment, which directly amended claim 13, added new claims 20-25, and traversed the rejection of claims in the 3/23/07 Office action, is acknowledged. Applicant's arguments with respect to the rejected claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 17 and 23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The claims recite the limitation, "the lattice reinforcing device does not have an arrangement for holding nuclear fuel rods." There is neither an adequate description nor enabling disclosure for this limitation. Note from Fig. 3 that two rods (and as many

Art Unit: 3663

as four rods) are enclosed (i.e., held) within lattice reinforcement 21, when used in the fuel assembly.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 13, 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by any one of Schmidt et al. (U.S. 6,744,842) or DeMario (U.S. 4,576,786) or Canat et al. (U.S. 5,263,072), any one disclosing a PWR fuel assembly.

Schmidt et al.

Schmidt et al. disclose in Fig. 2 nuclear fuel rods 9 disposed in a substantially rectangular regular array, a support skeleton with two nozzles, guide tubes 12, and spacer grids 10.

Applicant's claim language, "lattice reinforcing device" reads on insert 16a (see Figs. 3 and 4). Note that insert 16a does not extend between peripheral rods disposed webs 17 and 18 (see Fig. 3). Also, these inserts 16a are disposed in the plurality of spacer grids 10 located along the longitudinal dimension of the fuel element 1 in Fig. 2. Thus, one can always find at least one lattice reinforcing device (i.e., insert 16a) between two spacer grids, as in the claims.

DeMario

DeMario discloses in Fig. 1 nuclear fuel rods 18 disposed in a substantially rectangular regular array, a support skeleton with two nozzles 12, 22, guide tubes 14, and spacer grids 16.

Applicant's claim language, "lattice reinforcing device" reads on spacer 24 (see Figs. 1 and 2). Note that spacer 24 does not extend between peripheral rods disposed on the right hand side edge of the fuel element (see Fig. 2). Applicant recites the term, "peripheral rods" broadly and examiner reads the term on said right hand side edge of DeMario's fuel element. Note also from Fig. 1 that spacer 24 is disposed between two spacer grids.

Canat et al.

Canat et al. disclose in Fig. 1 nuclear fuel rods 18 disposed in a substantially rectangular regular array, a support skeleton with two nozzles 12, 24, guide tubes 16a and 16b, and spacer grids 20.

Applicant's claim language, "lattice reinforcing device" reads on brackets 56 that secure the guide tubes 56 on the right hand side of Fig. 2 (see also col. 3, lines 62+). Note that these brackets 56 on the right hand side do not extend between peripheral rods disposed on the left hand side edge of the fuel element in Fig. 2. Applicant recites the term, "peripheral rods" broadly and examiner reads this term on rods disposed on the left hand side edge of Canat et al.'s fuel element. Also, one can always find at least one bracket 56 disposed between two of the plurality of spacer grids 20.

Art Unit: 3663

5. Claims 15 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by either one of DeMario or Canat et al. See Fig. 2 in DeMario or Fig. 2 in Canat et al., including the discussion above on applicant's broad recitation of "peripheral rods".

6. Claim 16 is rejected under 35 U.S.C. 102(b) as being anticipated by either one of Schmidt et al. or Canat et al., whose reinforcing lattice device (i.e., insert 16a in Schmidt et al. or bracket 56) does not have any fins for mixing cooling fluid.

7. Claims 18 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by any one of Schmidt et al. or DeMario.

Schmidt et al.

As to claims 18 and 24, Schmidt et al. disclose insert 16a as having crossing plates 22 and 23 that define cells (see Fig. 3 and col. 4, lines 65+).

DeMario

As to claims 18 and 24, DeMario discloses spacer 24 as having crossing plates 34 defining cells (see Fig. 2 and col. 6, lines 54+).

8. Claims 17, 19, 23 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Canat et al.

As to claims 17 and 23, Canat's lattice reinforcing device 56 does not have an arrangement for holding fuel rods because its cell has dimensions that are larger than the fuel rods.

As to claims 19 and 25, the two sets of plates 56 are crossed by plate 54 in Canat et al. (see Fig. 2)

9. The claims are replete with statements that are either essentially method limitations or statements of intended or desired use. For example, "for receiving control rods (e.g., see claim 13), "for receiving guide tubes" (see claim 24), etc. These clauses, as well as other statements of intended use do not serve to patently distinguish the claimed structure over that of the reference, as long as the structure of the cited references is capable of performing the intended use. See MPEP 2111-2115.

See also MPEP 2114 that states:

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647.

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531.

[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528.

As set forth in MPEP 2115, a recitation in a claim to the material or article worked upon does not serve to limit an apparatus claim.

Any one of the systems in the cited references is capable of being used in the same manner and for the intended or desired use as the claimed invention. Note that it is sufficient to show that said capability exists, which is the case for the cited references.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick Palabrica whose telephone number is 571-272-6880. The examiner can normally be reached on 6:00-4:30, Mon-Thurs.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3663

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RJP

November 5, 2007


RICARDO J. PALABRICA
PRIMARY EXAMINER